

CORNELIUS LANCZOS INTERNATIONAL CENTENARY CONFERENCE

FINAL REPORT

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The Cornelius Lanczos International Centenary Conference took place December 12 to 17, 1993, at the Jane S. McKimmon Center, NCSU, as planned for the previous several years. The Conference was sponsored primarily by the College of Physical and Mathematical Sciences, and by the Departments of Physics and Mathematics, with additional support from State and Federal agencies, and from private industry. The Conference presented 27 distinguished plenary speakers; 27 specialized minisymposia in theoretical physics, computational mathematics, and astrophysics; 16 sessions of contributed oral presentations, comprised of 95 papers; and three sessions of contributed poster presentations, including 55 papers. (Some of the authors of contributed papers were unable to attend.) An Opening Ceremony featured videotapes of Lanczos, recognition of members of his family in attendance, and presentations on his place in twentieth-century physics and mathematics. The background of Hungarian mathematics and science was presented in a talk by Dr. Peter Lax at the Conference banquet. On the free afternoon during the week, an optional tour took some 50 participants to Research Triangle Park to visit IBM, MCNC, and the North Carolina Supercomputing Center (NCSC), while another minisymposium informally convened at NCSC. Finally, two public events brought the excitement of the Conference to wider attention: a Commemorative Concert, featuring Duke's well-known Ciompi Quartet and NCSU's Assistant Director of Music Jonathan Kramer, honored Lanczos's interest and expertise in music, while a Public Lecture by Dr. Michael Turner, "The Earliest History of the Universe," drew motivation from Lanczos's cosmological speculations and from his excellence as a lecturer and teacher.

Goals. The goals of the Conference included honoring the contributions of Cornelius Lanczos to the many fields in which he worked; presenting new research in these fields; providing an unusually broad exposure for attendees to different disciplines in computational mathematics, theoretical physics, and astrophysics; and showing off the University and the Triangle area to visiting scientists, while making the local community aware of this major scientific event. We believe that all these goals were met.

Participants. About 600 people spent some time at the Conference during the week (not including the attendance at the public events). To 407 paid registrants were added 100 NCSU and other local faculty, while another 75 or so student volunteers helped with audio-visual equipment and miscellaneous tasks and were allowed in return to attend sessions. Several members of the press attended as well. The attendees came from all over the world: Western and Eastern Europe; Russia; the Far East; Australia; Africa; and North and South America. We even had a participant from Mauritius in the Indian Ocean. The diversity of the attendees was remarkable: women were present at every level, from Plenary Speakers to

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minisymposium chairs to contributed-paper authors, while African and African-American scientists and mathematicians were in evidence as well. One needed only to walk through the lobby during breaks, and listen to the hum of polyglot conversations, to realize how truly international this Conference was.

Opinions. The Conference seemed extremely well-received by the participants. Many expressed very favorable opinions to members of the Scientific and Local Organizing Committees; several called it the best conference they had attended in years. A survey questionnaire was filled out by some 65 participants; 85% described the meeting overall as "good" or "excellent", while an even higher percentage approved of the general subject matter and overall quality of sessions. The Committee of Honor and Special Guests, distinguished colleagues of Lanczos and members of his family, were particularly pleased and appreciative of the Conference's honoring Lanczos and of their treatment here.

Interdisciplinary Sessions. The attempt to expose physicists and mathematicians to exciting results in one another's fields had mixed results. Some of the presentations by plenary speakers were truly outstanding, while others were highly technical and not easily accessible to nonspecialists. We noticed an increasing tendency as the meeting progressed for the mathematicians to desert the physicists' talks, and vice versa. However, our attempt to bring these two audiences together had some success, and seems to us to be a virtually unprecedented attempt to stem the rush to overspecialization in science and mathematics. The Lanczos Conference was a thoroughly interdisciplinary affair.

Publicity. Finally, our goal of bringing the attention of the local community to this outstanding event was particularly successful. The *Raleigh News and Observer* devoted three major articles, two on the front page, to the conference and its attendees: one to the Conference itself, and to Lanczos, and two to interviews with John Wheeler and Roger Penrose. The article on the Conference in general was picked up and distributed by the statewide Associated Press wire, and appeared in many other newspapers. Other local media carried coverage as well; the public events were highlighted in many media, with particular mentions on local radio and TV. Reporters from Sigma Xi's journal, *The American Scientist*, were reportedly present but did not contact us. Since this magazine is bimonthly, any coverage of the Conference would not yet have appeared. The Commemorative Concert was attended by 200 - 300 individuals, while the Public Lecture almost filled Stewart Theatre with 600-800 enthusiastic conference participants, high-school students, and members of the general public. Questions after Dr. Turner's talk ran to half an hour, and would have continued indefinitely without intervention. Receptions after both events were well attended; Dr. Turner found himself even at the reception to be surrounded by audience members eager to ask further questions. We believe that even a relatively modest attempt at outreach such as this is important for a major scientific meeting, and can contribute significantly to general science literacy and to the public's appreciation of the contributions of NCSU to the local community. Dr. Turner's talk was videotaped by NCSU's Broadcast Services and will be produced as a broadcast-quality one-hour tape to be distributed to North Carolina schoolteachers, with support from the NSF.

Organizers. Organizing and executing the Conference were unimaginably enormous tasks. A great deal of work was done by the Conference Organizing Committees starting about three years before the meeting, in selecting plenary speakers, settling on a format, contracting with NCSU's Continuing Education and Professional Development (OCE&PD) and drafting proposals to Federal agencies for support. Starting a bit over a year before the Conference, the Local Organizing Committee (LOC) was first convened to address local issues. However, the project immediately exceeded OCE&PD's experience and expertise. The total responsibility for local arrangements promised by OCE&PD never materialized, and we were forced to assume most of that burden. Without the extensive expertise in scientific meeting planning of one of us (PHB), the Conference could never have taken place. As it was, we spent about three man-years on the Conference in 1993 (in addition to all our normal academic and other responsibilities), and one staff member at OCE&PD, Chip Futrell, also put in enormous time. Difficulties attended every facet of the local organization, but chief among them were arrangements for timely reimbursements to non-US individuals; hotel arrangements in general; busing; volunteers; exhibits; fundraising; production of the Preliminary and Final Conference Programs; and others. Many of our difficulties were the results of our own inexperience, and of commitments made very early in the Conference planning. However, various University policies and procedures contributed hindrances at every stage, while our difficulties with OCE&PD persist even to the present, as the final meeting accounting is being done. We present a more detailed discussion of our problems, and our suggestions of how to avoid them when planning future meetings, in an accompanying document.

Budget. The total meeting budget was over \$200,000, though that sum does not include time of several University faculty and staff, chiefly Vicki Grantham, William R. Davis, Cynthia Ball, Patrick Dolan, and ourselves (with the exception of PHB whose minimal compensation was included as a Conference budget item). We raised about \$75,000 in registration fees, \$66,000 from Federal and non-NCSU State agencies, and \$4,000 from corporate exhibitors and sponsors. Internal support came to about \$65,000 (in addition to the salaries of Vicki Grantham, Barbara Gellai, Patrick Dolan for his semester visiting, and W.R. Davis for release time, and other expenses shared with the Lanczos Collected Published Papers project). Expenses included \$90,000 for support of speakers, guests, and junior researchers, \$35,000 for publications, and \$85,000 for general local expenses. A more detailed budget is included.

Summary. We believe that the Cornelius Lanczos International Centenary Conference was an unqualified scientific success, and provided a large amount of favorable exposure of the University and its scientific stature both to the Conference participants and to the local community. This success was achieved at considerable effort and expense, and any future events of such a nature should be planned only after careful study of our experiences.

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13. ABSTRACT (Maximum 200 words)

North Carolina State University hosted the Cornelius Lanczos International Centenary Conference December 12-17, 1993, and by all accounts the Conference was a resounding success. Over 600 attendees included scientists and mathematicians from the Triangle area, and from across North Carolina, the US, and the entire globe. Participants described their impressions in glowing terms, and major local and statewide media gave the Conference unprecedented coverage. We feel that all goals of the Conference were met, both the scientific and technical goals of any major conference, and the goals of heightening awareness in the international technical community of the excellence and quantity of scientific activity in North Carolina, the Triangle area, and North Carolina State University. The most important feature of the Conference in producing this favorable outcome was the stellar list of invited speakers. An unusually large complement of distinguished individuals served as the chief attraction of the Conference. Two of these internationally known speakers, John Wheeler and Roger Penrose, were interviewed at length for the News and Observer of Raleigh, and their attendance here contributed to the Conference's high profile.

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